NATIONAL WEATHER SERVICE, CHARLESTON, WV

Spring/Summer 2011

Spring/Summer 2011 Spotter Newsletter

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WFO CHARLESTON AREA COOPERATIVE OBSERVER RECEIVES NATIONAL AWARD. By: Jim Campbell, Co-op Program Manager

Donna Boggs, of Hacker Valley West Virginia, recently was presented the John Campanius Holm Award during a ceremony at the National Weather Service Office in Charleston West Virginia. The award was named for a person who was the first person known to have taken systematic weather observations in 1644 and 1645 in the American Colonies.

Today, there are thousands of cooperative observers across the country. Donna is one of only 25 who received the award for 2010. She has been a cooperative observer for over 21 years in the Webster County community. Her daily weather observations are used in a variety of programs to enhance the operations of the NWS and other agencies.

Mrs. Boggs met and exceeded all the strict criteria used to evaluate observers. Her dedication and volunteer service are outstanding. In addition, her interaction with the residents of Hacker Valley and Webster County make Donna a local representative of the NWS. As such, she is a valuable link between the NWS and the local community

Donna Boggs, right, receives the John Campanius Holm Award from James F. Campbell,

WHERE IS MAX? By: Alan Rezek, Meteorologist in Charge

The National Weather Service provides a lot of information to a wide variety of users making it difficult to find things on our web page at times. Where is MAX (**M**y **A**vailable w**X**) is a series to help you find detailed forecast information for situational awareness and decision making. In this newsletter we will look at the hourly weather graph and regional weather summary.

The hourly weather graph can be found right off the front page above the map: ***Weather forecasts for each hour to help with your decision making.*** *"other" will take you to about any town. The ad-*

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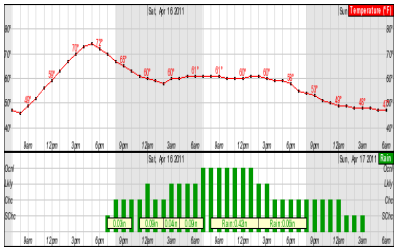
vantages of this forecast format are threefold. First, it makes available nearly every forecast parameter for your specific location in one presentation. In addition to traditional forecast parameters such as wind, temperature and probability of precipitation, hourly forecast fields such as probability of thunder, visibility, and pressure are available. Second, it provides detail for each forecast parameter at the hourly level. Finally, the forecast is updated or accepted as still correct at least every 3 hours by a



Sample image of hourly weather graph displaying temperature (top) *forecaster.*

The regional weather summary is part of the text suite. It can be found off the front page by clicking on the text forecast ICON, paging down to near the bottom of the text product list to *regional weather summaries, then selecting "Central Appalachians and Middle Ohio Valley (Charleston Forecast Area)".* This product is prepared by the forecasters to describe impacts that could result from the weather they have forecast. When watches, warnings and advisories are issued, we include potential impact statements. An advantage of this product is that the forecaster can provide potential impact information for forecast weather well before the decision to issue a watch, warning or advisory. In addition, potential weather impacts for forecasts which do not rise to the watch, warning or advisory level can still be shared by the forecaster.

The regional weather summary is a product to describe impacts that could result from forecast weather.

Help keep your community safe!!!! Report all severe weather to the National Weather Service at 1-800-401-9535

Mid-September 2010 Ohio Valley Severe Weather Outbreak

By: Mark Pellerito, Meteorologist

Late afternoon of September 16, 2010, a significant severe weather outbreak developed in central to southeast Ohio, and then crossed into western West Virginia in early evening.

Figure 1: House heavily damaged by tornado in Perry Co. OH

The atmosphere that day had a high degree of shear (wind going different directions and speed with height) and instability, both of which were harnessed by a cold front to produce a cluster of supercell thunderstorms. This type of thunderstorm is especially dangerous, because it contains a strong rotating updraft, capable of large hail, damaging winds, and sometimes tornadoes. A supercell can last several hours, because wind shear enables a continu-

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ous feed of unstable air into the storm from one direction, while the storm itself moves in a different direction.

Often, tornadoes in our region can be on the weak side and thus a little more difficult to detect on radar. However, in this case, the rotation within the supercell thunderstorms was very strong. For NWS Charleston's Warning Area, there were a total of 8 tornado warnings.

Figure 2: Tornado damage south of Nelsonville, OH

On that day, combining both tornado and severe thunderstorm warnings, there was a probability of detection of 95%, and an average lead time of 28.5 minutes.

The outbreak began as one tornado crossed into western Perry County (figure 1), and then a new one developed in eastern Perry County, reaching extreme northwestern Morgan County. A different supercell dropped a tornado just south of Nelsonville, OH (figure 2), which then evolved into a swath of straight line winds of around 100 mph through The Plains and eastern Athens, OH. A separate storm produced a tornado in Meigs County, OH (figure 3). The strongest tornado crossed the Ohio River into Wood County, WV near Belleville, producing damage rated near the top of EF3 range of the en-

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hanced Fujita scale; winds estimated at 150 to 160 mph (figure 4). Unfortunately, in addition to being the strongest tornado to hit West Virginia in decades, it also resulted in the state's first tornado-related fatality since the early 1980s. A final weak tornado then struck Wirt County, WV as night fell.

Figure 3 (left): Cell phone image of tornado, courtesy of Meigs Co. OH EM

Figure 4: EF3 tornado damage near Belleville, WV

FLOODING By: Tim Axford, Meteorologist

Each year around the time of the spring equinox, our area finds itself in a potentially dangerous transition period. Lingering mountain snow, melting under the increasingly warm temperatures, teams up with spring rainfall to raise creeks and streams throughout our region. Although this time of year has historically been the prime time for flooding events in our region, it is important to remember that flooding can (and does) happen at any point through the year.

There are several resources helpful for staying up to date on current river levels as well as river forecasts. The Ohio River Forecast Center (found here: http://www.erh.noaa.gov/ohrfc/) issues forecasts for all major rivers in our area. These forecasts, along with current river levels can be found by going to the Advanced Hydrologic Prediction Service page for our warning area.

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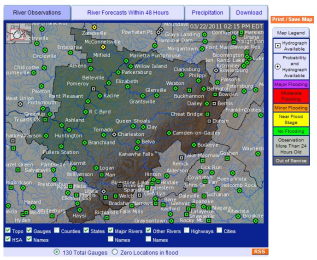
That resource can be found here: http://water.weather.gov/ahps2/index.php?wfo=rlx. You can find out information about each location (flood stages, high water effects, forecasts, etc…) simply by clicking on a site, or using the drop menus below. These sites can only provide so much information, however, as small streams and localized flooding may not be well represented.



The Advance Hydrologic Prediction Service page is a great tool to prepare for river flooding

In addition to the flooding of rivers, creeks and streams due to large scale rain systems and/or snowmelt, our area also experiences flash flooding due to spring and summer convective storm activity. Flash flooding is caused by heavy or excessive rainfall in a short period of time, generally less than 6 hours. Most of our flash flooding occurs when storms "train" over a given area. "Training" of storms refers to the phenomenon when storms repeatedly develop and pass over a certain area again and again. This type of heavy rain event can cause dangerous high water situations in any landscape, be it urban, rural, etc…

Over a 30 year average, flooding is the number one storm related killer, far surpassing lightning and tornados. Most flooding related deaths occur at night when water covering roadways is difficult to see. Day or night, it is important to remember that if you come up to a point where water is covering the path of you or your vehicle, take an alternate route. Roadways can often be washed out by high water leading to dangerous situations, even on your regularly traveled routes. Taking the extra time to travel an alternate route is not nearly as costly as loss of life or property. Remember: TURN AROUND, DON'T DROWN.

Here are several tips to insure safety and increase your preparedness during flooding:

If flooding is occurring in your area, move to higher ground immediately

Obey all road closures signs in flooded areas

Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.

Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

Own an All Hazards NOAA Weather Radio in good working order

Keep an extra set of batteries on hand

Consider owning an emergency disaster kit with extra food, supplies, and first aid kit

NWS CHARLESTON SEEKS CO-OPERATIVE VOLUNTEERS **By: Andrew Beavers, HMT**

The National Weather Service uses many programs to collect weather information across the country. The Skywarn Spotter Program is just one that uses volunteers within the community that each forecast office serves. Another volunteer program is the Cooperative Observer Program, or the COOP program.

The COOP program is a nationwide weather and climate monitoring network of 11,700 volunteer citizens and institutions observing and reporting weather information on a 24-hour basis. The COOP mission is to maintain the nation's local climate and weather data record to support weather and climate forecasts, watches, warnings, and the continuity and preservation of the climate record. In order to assure that climate data continues in the future the program has been tasked with providing official unbiased, high quality weather and climate observations and data stewardship for all data users, as well as to collect and provide daily observations for input into decision support at the local weather forecast offices.

Today's Cooperative Observers have proud traditions traced back to the infant days of the nation. As early as 1797, Thomas Jefferson envisioned a nationwide network of weather observers with at least one observer per county. Today's COOP was formally established by the Organic Act of 1890 with the purpose of taking meteorological observations to "establish and record the climatic conditions of the U.S." Because the network's observers have generated consistent long-term historical climate data, the network has established an invaluable record of climate. Climatic atlases for the country are based on decades of observations from COOP observers.

COOP observers take observations at the same time daily and are usually taken in the morning. These observations include some, or all, of the following;

- 24-hour maximum and minimum temperature
- 24-hour liquid precipitation amounts (including melted snowfall)
- snowfall and snow depth
- evaporation
- soil temperature
- river stage
- special phenomena such as hail, thunder, damaging winds, fog, as well as other events

The National Weather Service is always looking for Cooperative Observers to fill in areas that have no stations. The following areas are currently in need of Cooperative Observers

- Philippi and Belington, in Barbour County
- Clay County or NE Kanawha County, such as the cities of Clay or Clendenin
- Mingo County
- Southern Boone County or Western Raleigh County
- Central Mason County around Leon
- Northern Buchanan County around Hurley

If interested or for any questions, please contact

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